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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PC-21004624	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE 2003/001226	International filing date (day/month/year) 18-07-2003	Priority date (day/month/year) 16-08-2002
International Patent Classification (IPC) or national classification and IPC G06K9/68		
Applicant DECUMA AB ET AL ZI DECUMA AB et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 05-03-2004	Date of completion of this report 16-11-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Alexander Lakic /LR Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001226

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-34</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-34</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-34</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Relevant documents cited in the International Search Report:

D1: PARKER, J.R.: "Vector Templates and handprinted digit recognition" Pattern Recognition, 1994. Vol. 2

Conference B: Computer Vision & Image Processing.

Proc. Of the 12th IAPR International Conf. on 9-13 October 1994, Jerusalem, Israel, pages 457-459.

D2: US 2001026262 A

D3: WO 9833141 A1

D1 discloses a method for matching handprinted characters (in this case digits). The handprinted digit is matched with a number of templates. A digit is associated with several templates in order to capture the variation in shape, size and orientation.

D2 discloses an apparatus and method for recognising inputted handwritten characters. The apparatus includes a selection unit for selecting a font on the basis of the handwritten characters. Also in D2, multiple templates are associated with each character.

D3 also discloses a method for recognising handwritten characters. The method also include means for giving the user feedback on how a character should be written.

The applied invention relates to a method and device for recognising and presenting inputted handwritten character. The invention seeks to solve the problem of having mismatches between handwritten characters and stored templates due to the variation in shape, location and size for the handwritten

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

characters. The problem is solved by associating each character with several different reference templates, each template representing different ways of writing a symbol. For example, the letter 'a' can have three different templates which reflect the differences in how the letter 'a' can be written.

Referring to claims 1-34:

The invention according to claims 1-34 differs from D1-D3 in the way the reference templates are used. First of all, none of the cited documents describe several reference templates representing different ways of writing a symbol. Secondly, the matching result obtained after inputting a handwritten symbol is affected when having a database which contains several templates representing different ways of writing a symbol. The probability of correct matching should increase when having several alternative reference templates for each symbol as described in claims 1-34. The invention also differs from D1-D3 by displaying a symbol (after recognition is performed) which shows a way of writing said symbol. Although D3 describes a process which gives the user visual feedback of how to write a symbol (while the user writes), the document does not provide any information about that there are several ways of writing one single symbol and still get a positive recognition result.

Therefore, the claimed invention stated in claims 1-34 is not considered to be anticipated by documents D1-D3. None of these documents or any relevant combination of them reveals a method and device for recognizing handwritten symbols, including a plurality of reference templates representing different ways of writing a character, and outputting the reference template that best matches the inputted symbol, said outputted template provides information of how the symbol is written.

In view of the aforementioned, the invention according to claims 1-34 is novel, involves an inventive step and has industrial applicability.